Amendments to the Specification

Amend paragraph [0001] as follows:

[0001] The present invention relates to a method for processing a moving workpiece, in particular a vehicle body which is moved using ~~by means of~~ a conveyor belt, ~~according to the preamble of claim 1,~~ such as is disclosed, for example, in DE 195 20 582 C1. Furthermore, the present invention relates to a processing system for carrying out this method.

Add the following new heading before paragraph [0002]:

BACKGROUND

Amend paragraph [0006] as follows:

[0006] ~~The invention is thus based on the object of developing~~ An object of the present invention is to develop the known method for robot-supported processing of a moving workpiece to the effect that a relative position of a robot-guided processing tool with respect to the moving workpiece, as far as the execution of the actual processing task, can be set and maintained by controlled processing. ~~The invention is also based on the object of proposing~~ Another alternate or additional object of the present invention is to propose a processing system which is suitable for carrying out the method.

Add the following new heading before paragraph [0006]:

SUMMARY OF THE INVENTION

Delete paragraph [0007].

Amend paragraph [0008] as follows:

[0008] According to the invention, the robot-guided processing tool is provided with a sensor system which is fixedly ~~permanently~~ connected to the processing tool. The processing tool is firstly moved under the control of a robot into what is referred to as a "proximity position" (permanently programmed and independent of the current position of the workpiece in the

working space of the robot) with respect to the workpiece. Starting from this proximity position, a closed-loop control process is run through, in the course of which the processing tool is moved into what is referred to as a "working position" in which the processing tool and/or an add-on part which is held in the processing tool is oriented in a precisely positioned fashion with respect to the workpiece. In the course of the closed-loop control process, (actual) measured values of selected reference areas are generated on the workpiece and/or on the add-on part by the sensor system, and these (actual) measured values are compared with (setpoint) measured values which have been generated in a preceding setup phase. The processing tool is then moved by an amount equal to a movement vector (comprising linear movements and/or rotations) which vector is calculated from a difference between the (actual) and (setpoint) measured values using what is referred to as a "Jacobi matrix" (or "sensitivity matrix"). Both the (setpoint) measured values and the Jacobi matrix are determined within the scope of a setup phase, preceding the actual positioning and mounting process, within the scope of which the processing tool is trained to the specific mounting task (i.e. a specific combination of processing tool, sensor system, vehicle body type and type and installation position of the add-on part to be used).

Add the following new heading before paragraph [0015]:

BRIEF DESCRIPTION OF THE DRAWINGS

Amend paragraph [0015] as follows:

[0015] ~~Further advantageous embodiments of the invention can be found in the subclaims.~~ The invention is explained in more detail below with reference to an exemplary embodiment which is illustrated in the drawings, in which:

Add the following new heading before paragraph [0019]:

DETAILED DESCRIPTION

Amend the following paragraphs [0019] and [0021]:

[0019] Figure 1a shows a plan view of a processing system 4 in which roof modules 3 are bonded into roof openings 2 in vehicle bodies 1. Vehicle bodies 1 are fed to the processing

system 4 on a conveyor belt 10 and are continuously conveyed on the conveyor belt 10 through the working space 6 of the processing system 4 (direction of arrow 11) during the mounting of the roof module. Each roof module 3 is fed in by a robot 7 and is provided in its edge region with a bonding agent run 29 through ~~by means of~~ which the roof module 3 is connected to the roof opening 2 in the vehicle body 1.

[0021] The mounting of the roof module 3 in the vehicle body 1 is carried out using a processing tool 5 which is guided by the industrial robot 7 and which places the roof module 3 on the moving vehicle body 1 and positions it precisely with respect to the roof opening 2 in the vehicle body 1. An open-loop control system 20 is provided for controlling the robot 7 and the processing tool 5 in terms of position and movement. The processing tool 5 is attached to the hand 12 of the industrial robot 7 and comprises a frame 13 to which a securing device 14 is attached and through ~~by means of~~ which the roof module 3 can be held in a well defined position. In the present exemplary embodiment, the securing device is formed by a plurality of under-pressure suction cups which engage on the upper side 22 of the roof module 3.